Effectiveness of Using the Peanut Ball to Shorten the First and Second Stage of Labor

Catherine R. Bell, MSN, RNC, Fellow, Cathyjo Catalano, MSN, RNC-OB/EFM, Mentor
Carla Rider, DNP, MBA, RNC-LRN, Faculty Advisor

Background

One of the most common reasons for a cesarean section is "arrest of labor" also known as failure to progress or mid-pelvic arrest. It is estimated that between 2002 and 2018, 10% of first-time mothers had cesarean sections for failure to progress (Boyle et al., 2013).

Mobility decreases maternal pain, as well as assist in internal rotation of the fetal head into occiput posterior position and fetal descent into the birth canal (Gizzo et al., 2014). Frequent repositioning with the placement of a peanut ball will promote spinal flexion, thus increasing the utero-spinal angle (Tussey et al., 2015). This widening of the pelvis diameter subsequently assists in facilitating occiput posterior rotation to a more favorable position for delivery (Tussey et al., 2015).

Purpose

Project:
- The intent of the proposed study is to investigate how the use of the peanut ball can benefit laboring, primiparous women and shorten the length of the first and second stage of labor

Leadership:
- * The purpose of the Maternal-Child Health Nurse Leadership Academy (MCH-NLA) is to develop the leadership skills of maternal-child health nurses as they strive to improve the quality of healthcare of women and children

Preliminary results demonstrate that there is no significant difference between laboring patients using the peanut ball and those not using the peanut ball. There is currently not enough data to make a definite conclusion since this is preliminary data and there are still 180 participants remaining in the study.

Method:

- Develop Team
- Literature Review
- Best Practice
- Institutional Review Board (IRB)
- Create Consent form
- Construct Data Collection Tool
- All staff and physician's educated
- Ensured patient education
- Identified 'go-live' date
- Implementation of project
- Identify barriers
- Ongoing data review

Results

Paired Differences t df Sig. (2-tailed) Mean Std. Deviation Std. Error Mean 95% Confidence Interval of the Difference Lower Upper Pair 1 Time - time no .05348 7.56658 .80206 -1.54043 1.64740 .067 88 .947

Descriptive Statistics

Paired Differences

- Mean N Std. Deviation Std. Error Mean Pair 1 Time with 10.5625 89 6.26285 .66386 Time without 10.5090 89 5.66888 .60207

Paired Samples Test

- Sig. (2-tailed) Mean Std. Deviation Std. Error Mean Pair 1 Time - time no .05348 7.56658 .80206 -1.54043 1.64740 .067 88 .947

A paired-sample t-test was calculated to compare the mean hours of laboring patients who used the peanut ball to the mean hours of laboring patients who did not use the peanut ball. The mean for the time in hours for patients using the peanut ball was 10.56 (sd = 6.26) and the mean for patients not using the peanut ball was 10.38 (sd = 5.66). No significant difference from use to non use of the peanut ball was found (t(88) = 0.67, p > .05).

Conclusion:

- There is still a need for further studies of the use of the peanut ball to understand the effects of use on decreasing the length of first and second stage labor

Leadership Journey

- * Model the Way
- Create a Shared Vision
- Challenge the Process
- Enable Others to Act
- Encourage the Heart

References:

Catherine R. Bell, MSN, RNC, Fellow
Cathyjo Catalano, MSN, RNC-OB/EFM
Jennifer Murano, BSN, RNC
Katsiha Gordon, MSN, RNC
Nicole John MD
Carla Rider DNP, MBA, RNC-LRN (not pictured)
Melissa Fazzari, PhD (not pictured)
Effigenia Nunez, BSN, RNC (not pictured)

Catherine R. Bell, MSN, RNC, Fellow
Cathyjo Catalano, MSN, RNC-OB/EFM
Jennifer Murano, BSN, RNC
Katsiha Gordon, MSN, RNC
Nicole John MD
Carla Rider DNP, MBA, RNC-LRN (not pictured)
Melissa Fazzari, PhD (not pictured)
Effigenia Nunez, BSN, RNC (not pictured)

Catherine R. Bell, MSN, RNC, Fellow
Cathyjo Catalano, MSN, RNC-OB/EFM
Jennifer Murano, BSN, RNC
Katsiha Gordon, MSN, RNC
Nicole John MD
Carla Rider DNP, MBA, RNC-LRN (not pictured)
Melissa Fazzari, PhD (not pictured)
Effigenia Nunez, BSN, RNC (not pictured)

Catherine R. Bell, MSN, RNC, Fellow
Cathyjo Catalano, MSN, RNC-OB/EFM
Jennifer Murano, BSN, RNC
Katsiha Gordon, MSN, RNC
Nicole John MD
Carla Rider DNP, MBA, RNC-LRN (not pictured)
Melissa Fazzari, PhD (not pictured)
Effigenia Nunez, BSN, RNC (not pictured)

Catherine R. Bell, MSN, RNC, Fellow
Cathyjo Catalano, MSN, RNC-OB/EFM
Jennifer Murano, BSN, RNC
Katsiha Gordon, MSN, RNC
Nicole John MD
Carla Rider DNP, MBA, RNC-LRN (not pictured)
Melissa Fazzari, PhD (not pictured)
Effigenia Nunez, BSN, RNC (not pictured)